

## CLAIMS

What is claimed is:

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1. A suction ring for an orbital sander including a motor having a rotatable shaft with a radially off-set portion, a suction housing mounted to the motor around the motor shaft and connectable with a vacuum source for supplying vacuum pressure around the shaft, and a sanding pad assembly having a plurality of apertures therethrough, said suction ring comprising:
  - 10 an annular frame having a circumferential side wall including first and second circumferential edges and disposed between said suction housing and said sanding pad assembly;
  - 15 one of said edges defining an opening and adapted to mount to the sanding pad assembly;
  - 20 a circular back wall having an opening therein for communicating said vacuum pressure from said suction housing to said orbital sanding pad assembly;
  - 25 said back wall being continuous with the other of said circumferential edges of said circumferential side wall;
- whereby said sanding pad assembly is supported against flapping by said suction ring and sanding waste can be communicated through said sanding pad passageways and suction ring to said suction housing.

2. The suction ring of claim 1 further comprising:

a plurality of radially disposed ribs extending generally from said circumferential side wall to a like plurality of leg members disposed about said opening in said circular back wall, stiffening said suction ring and sanding pad assembly.

3. The suction ring of claim 1 wherein said ring is made generally of aluminum material.

4. A rotary orbital sander, comprising:

a motor having a rotatable shaft with a radially off-set portion;

5 a suction housing mounted to the motor, around said motor shaft and connectable with a vacuum source,

a sanding pad assembly mounted to the radially off-set portion of said shaft;

10 said sanding pad assembly further including a backing pad having a plurality of apertures therethrough and an annular frame having a circumferential side wall including first and second circumferential edges and disposed between said suction housing and said sanding pad assembly;

15 a circular back wall extending from one of said circumferential edges and having an opening therein sealable with said suction housing; and

the other of said circumferential edges being attached to said backing pad.

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5. The rotary orbital sander of claim 4, including a plurality of radially disposed ribs extending generally from said circumferential side wall to a like plurality of leg members disposed about said opening in said circular back wall, stiffening said sanding pad assembly and backing pad.

6. The rotary orbital sander of claim 4, wherein said sanding pad assembly further includes a sanding disk having a size and shape complimentary to said sanding pad, and a plurality of holes for 5 alignment with the said apertures in said backing pad.

7. A sanding pad assembly for use with a rotary orbital sander having a suction housing connectable with a vacuum source for drawing out sanding waste, said sanding pad assembly comprising:

5 a backing pad having a periphery;  
a plurality of apertures extending through said backing pad;  
an annular frame having a circumferential side wall attached to said backing pad and including 10 a circumferential edge defining in part a back wall having an opening in vacuum pressure flow communication with said suction housing.

8. The sanding pad assembly of claim 7, further including a sanding disk having a plurality of holes disposed in like fashion to said apertures in said backing pad so that the plurality of holes of

5 the disk align with the apertures in the sanding pad assembly.